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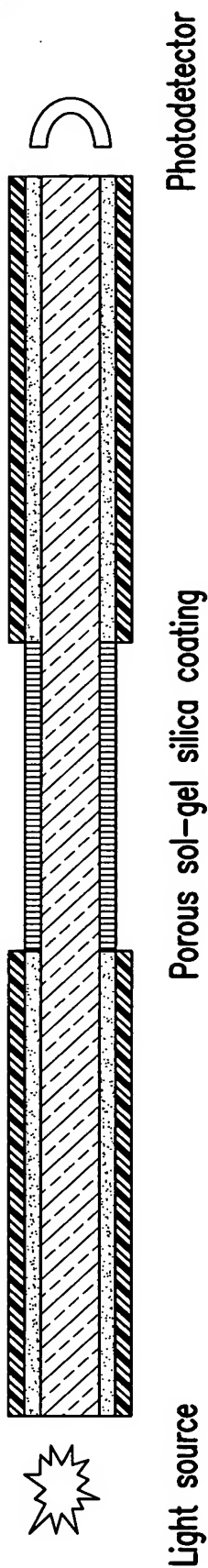


FIG. 1A

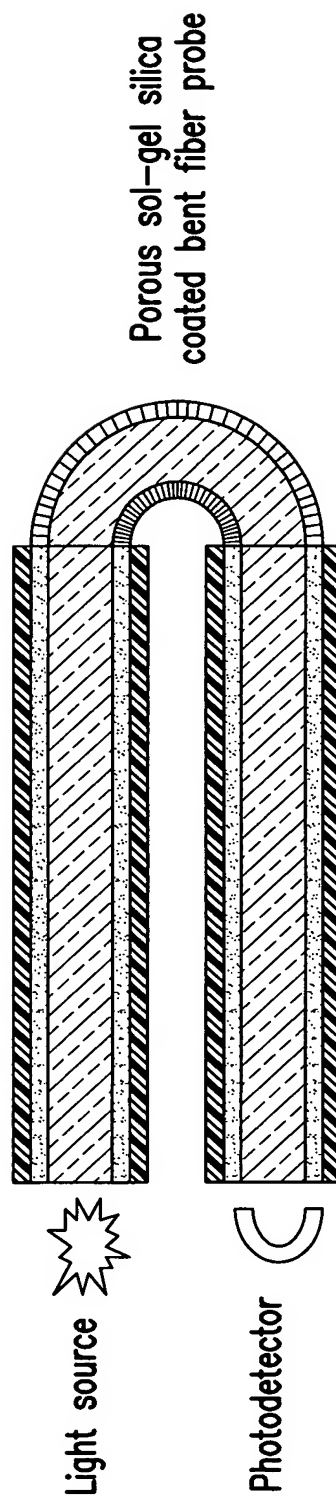
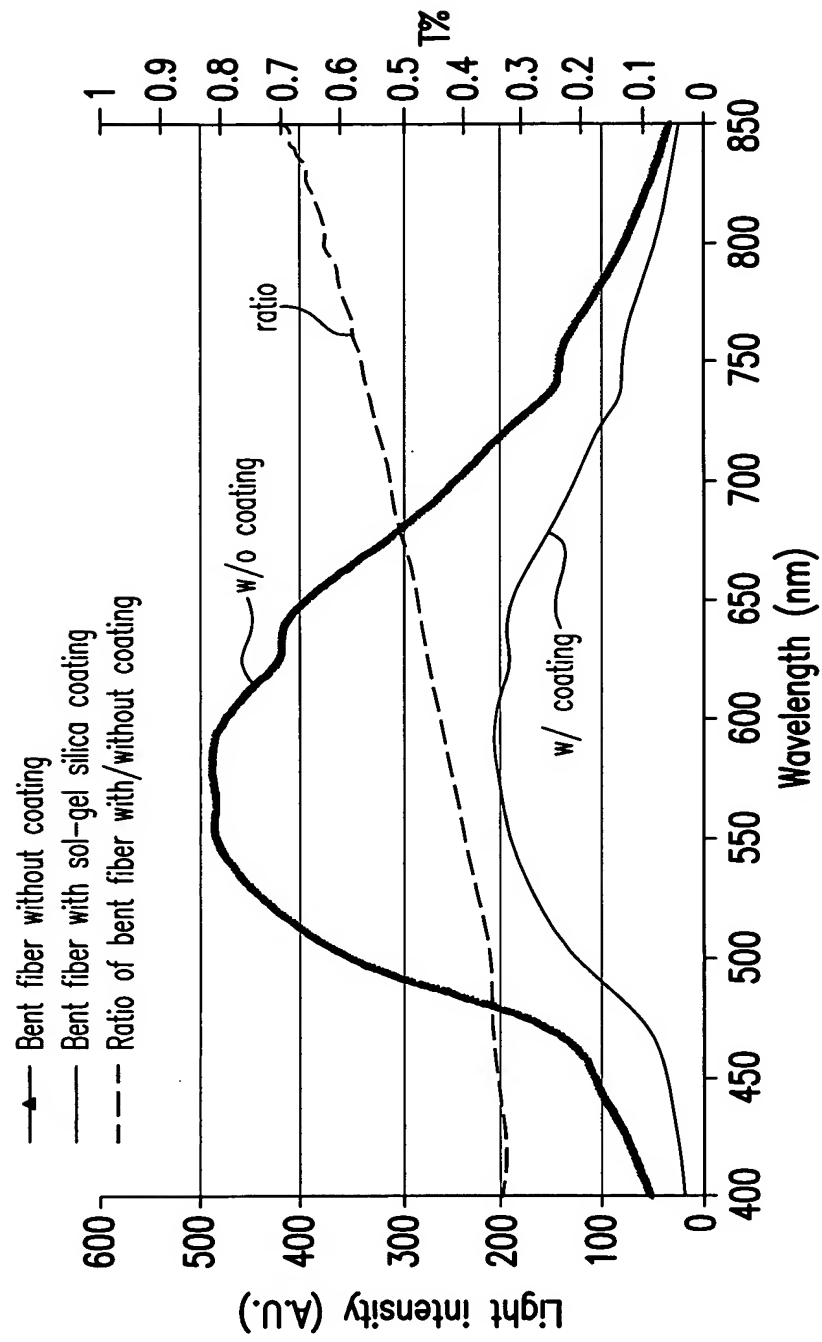


FIG. 1B

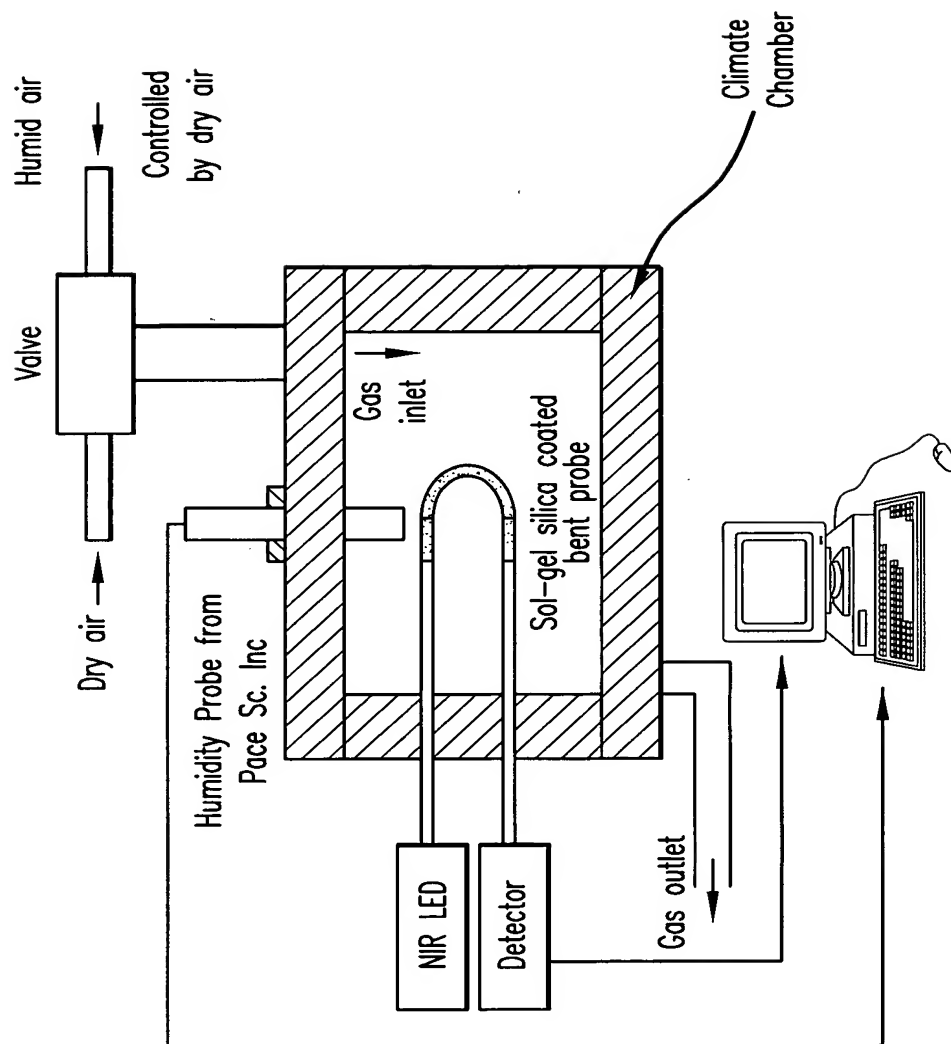
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Light intensity guided through a bent optical fiber with and without sol-gel silica coating

FIG.2

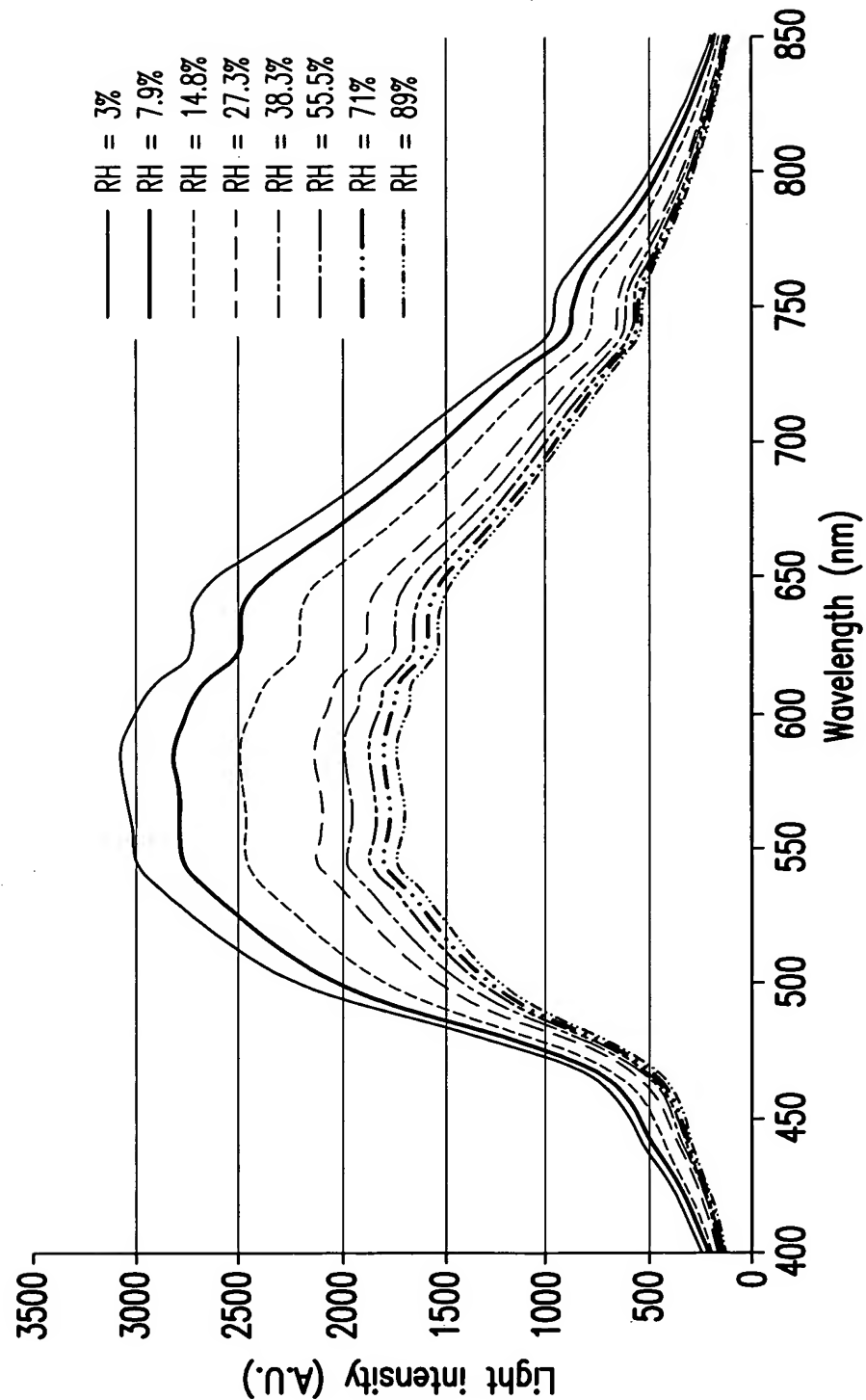
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Experimental set-up for testing the optical fiber moisture sensor

FIG.3

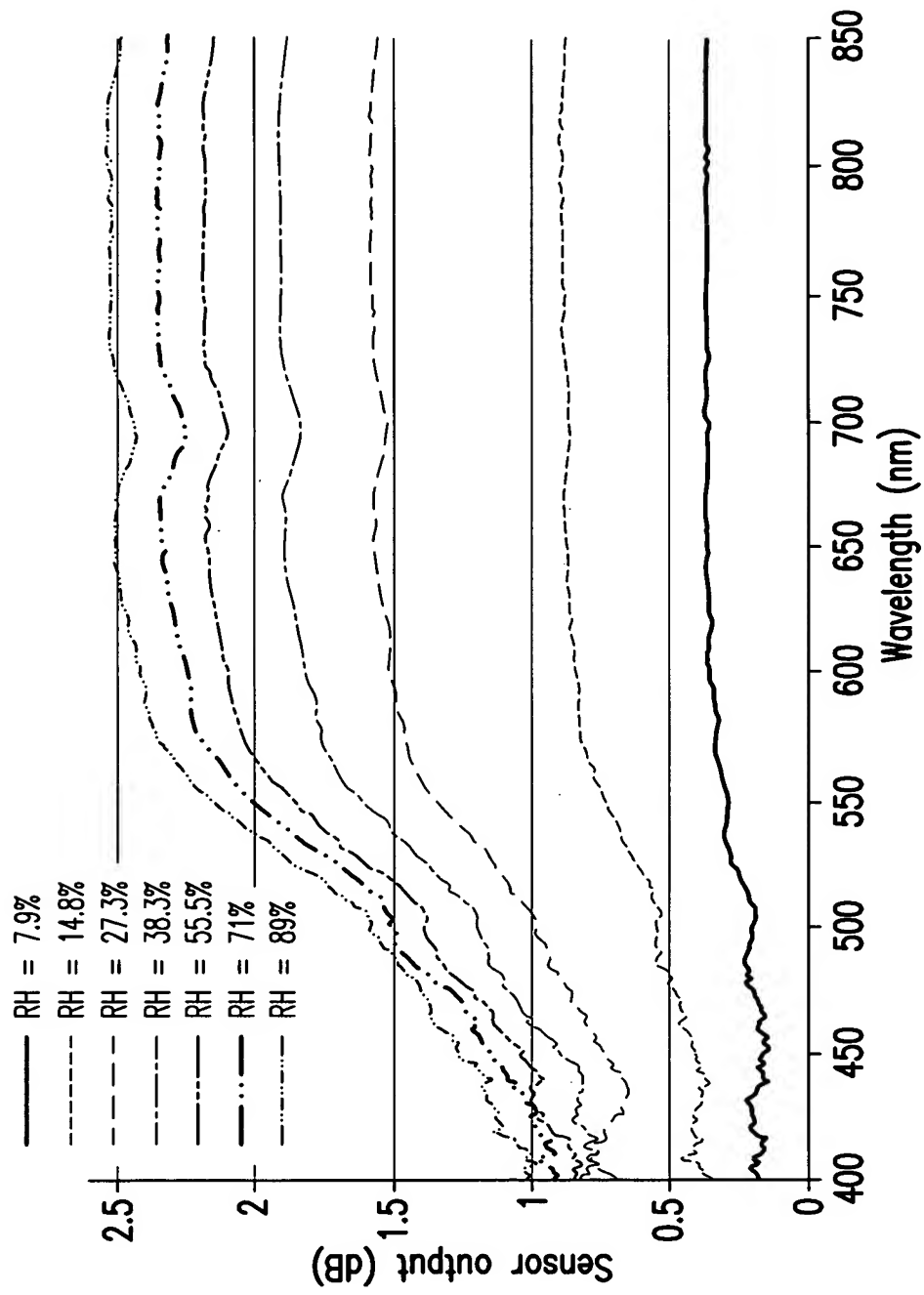
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Light intensity guided through a sol-gel silica coated bent fiber probe in air gas of different humidity

FIG.4

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dB response of a sol-gel silica coated bent fiber probe to air gas of different humidity against wavelength

FIG.5

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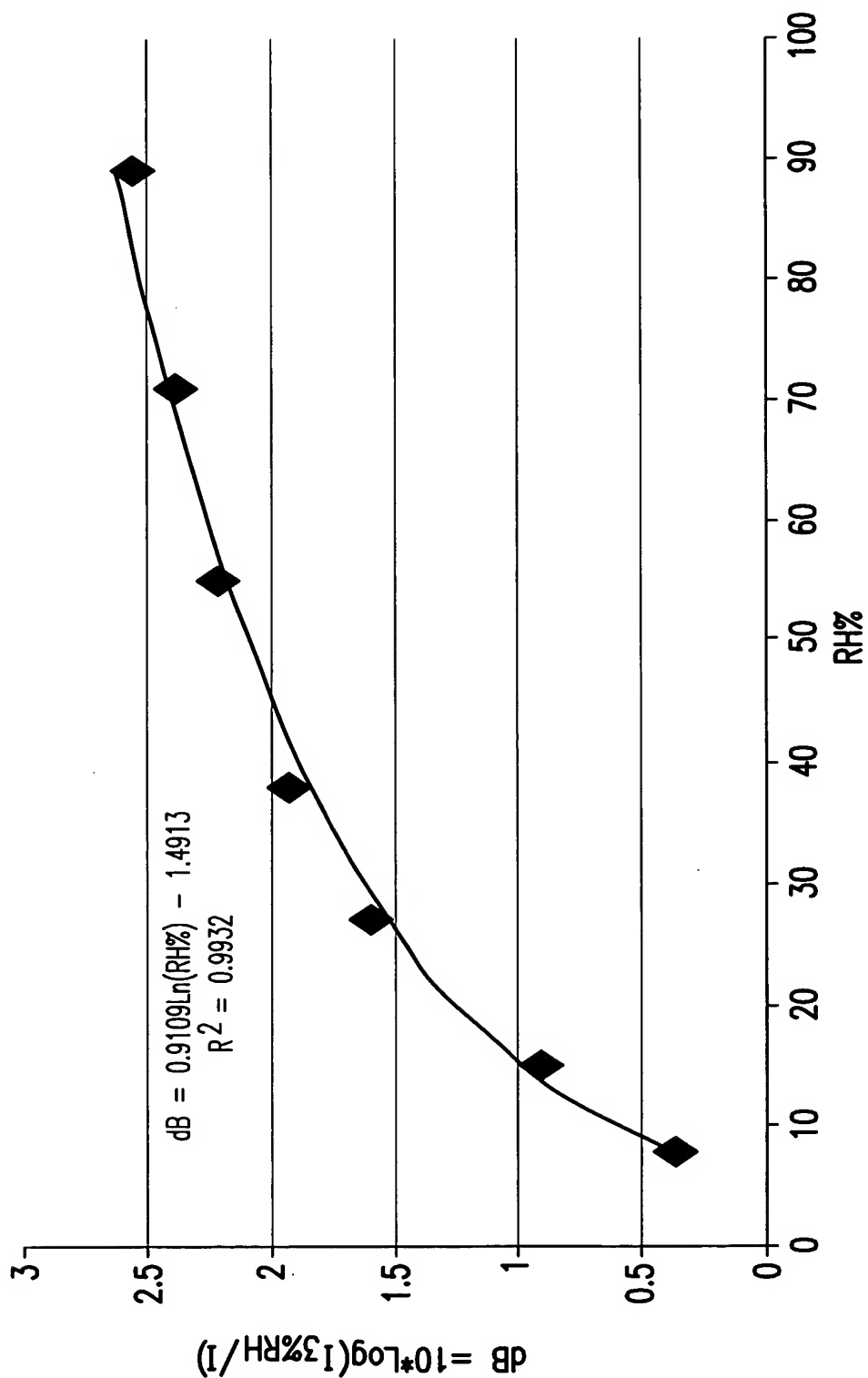
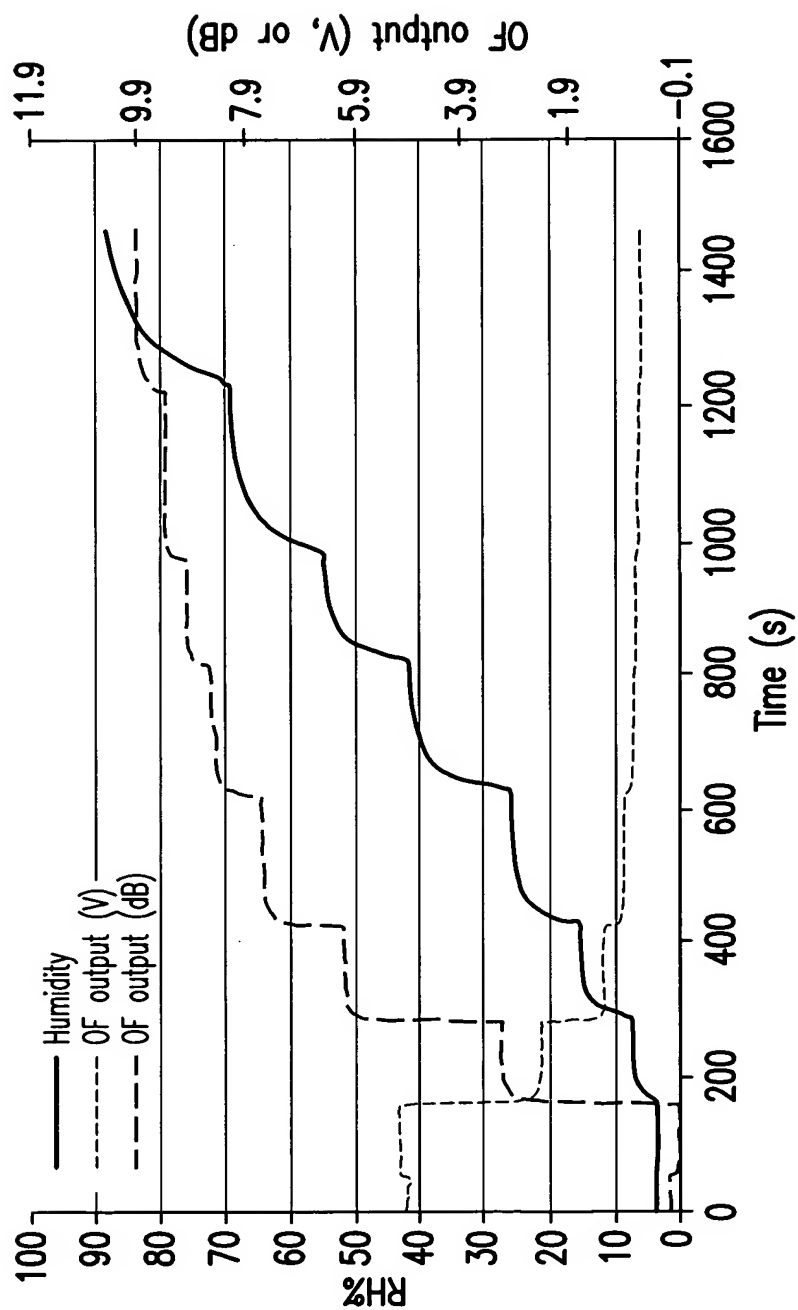


FIG.6

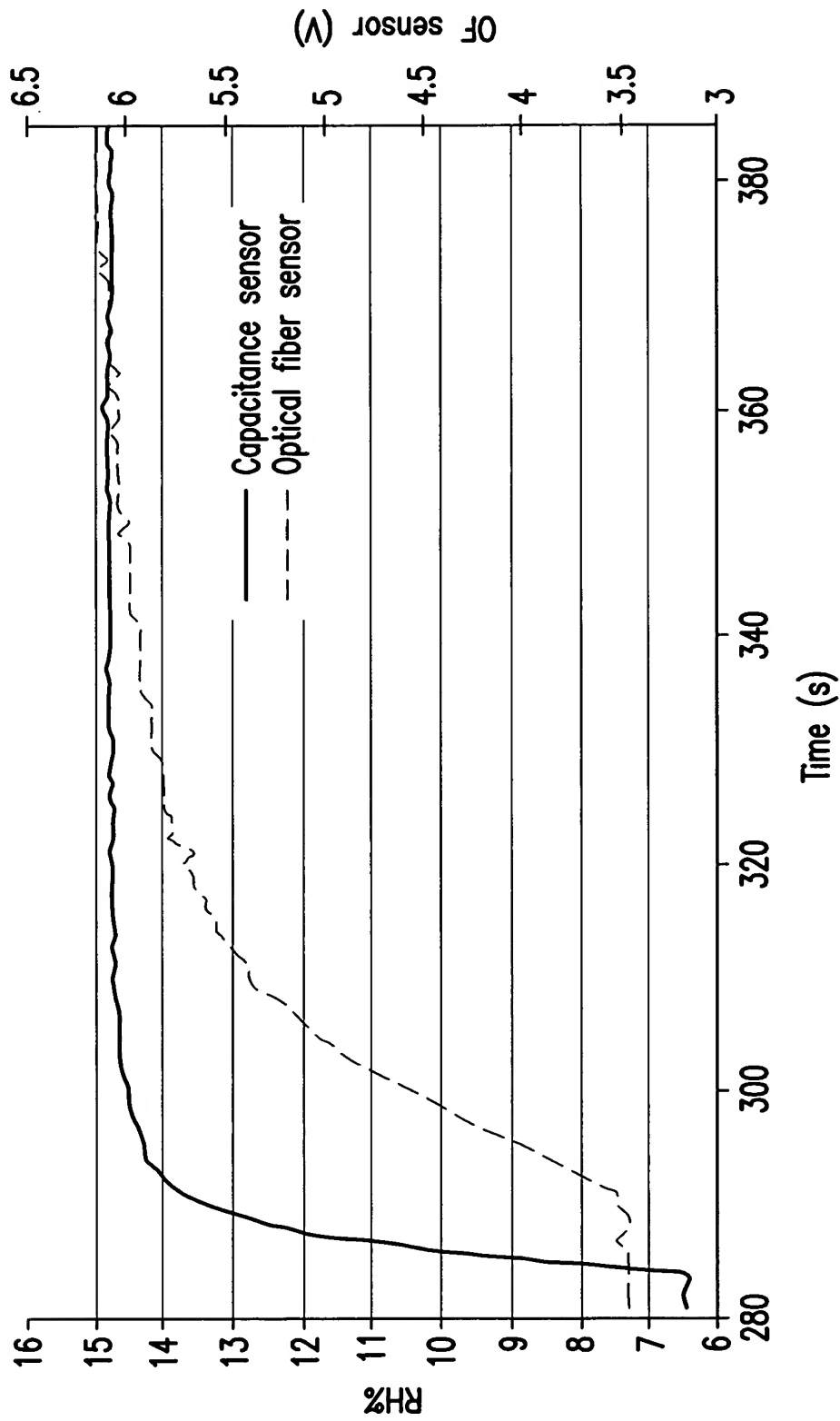
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Time response of a sol-gel silica coated bent fiber probe to moisture change

FIG.7

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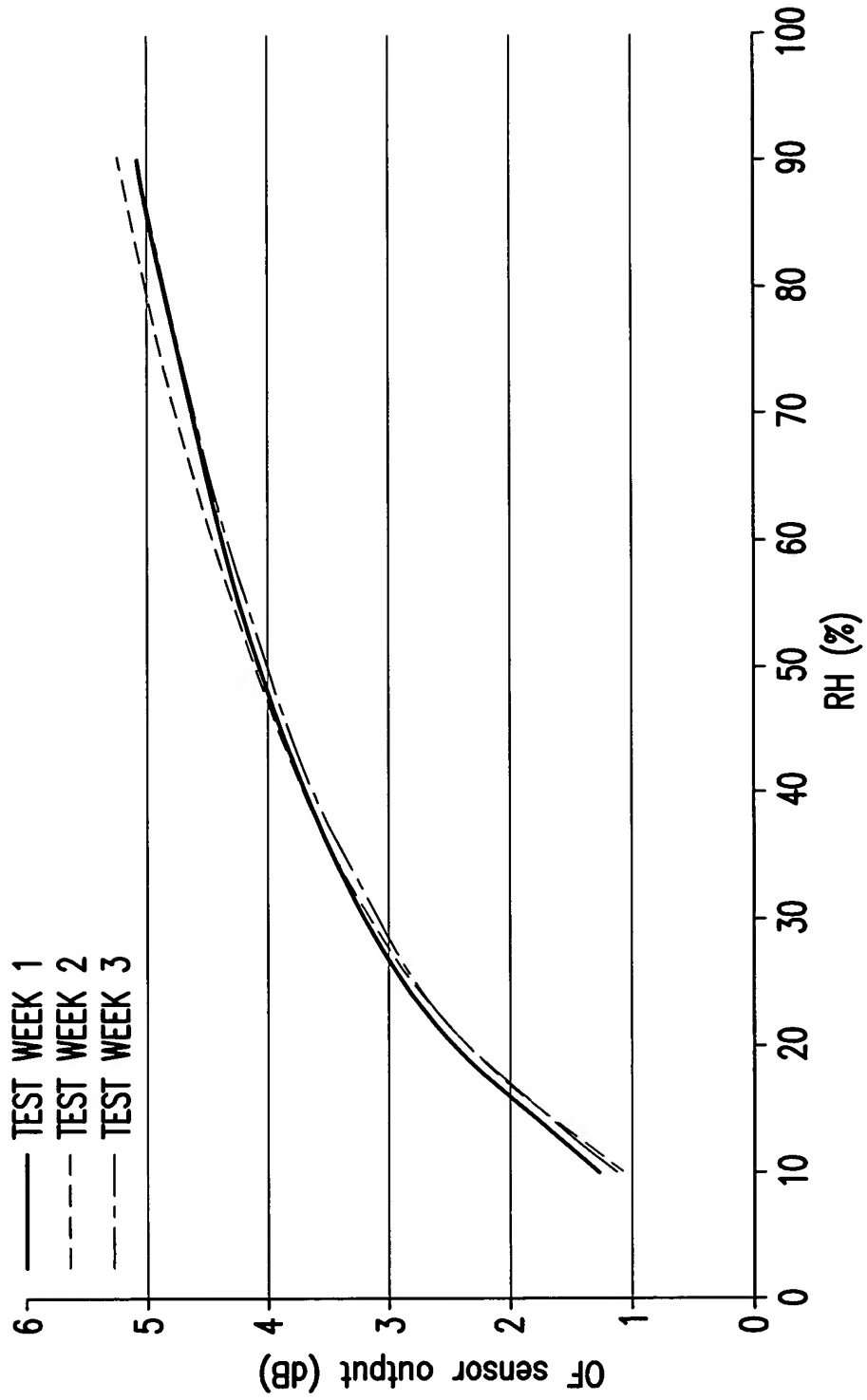


Comparison of response time of a sol-gel silica coated bent fiber moisture sensor with a capacitance based commercial sensor

**FIG.8**



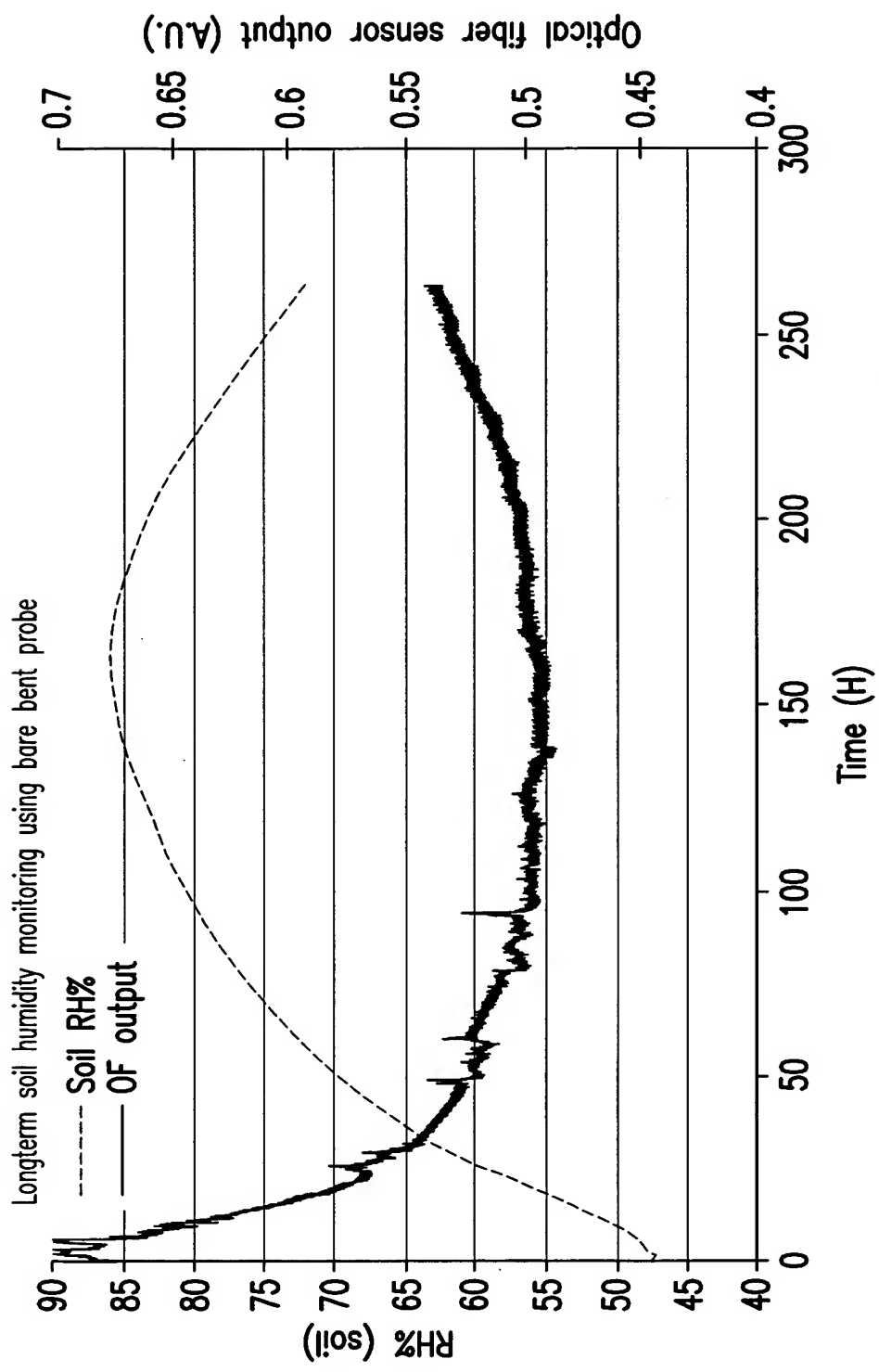
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Calibration curves of a sol-gel silica coated bent fiber sensor on different dates  
(The probe was soaked in water in between each test)

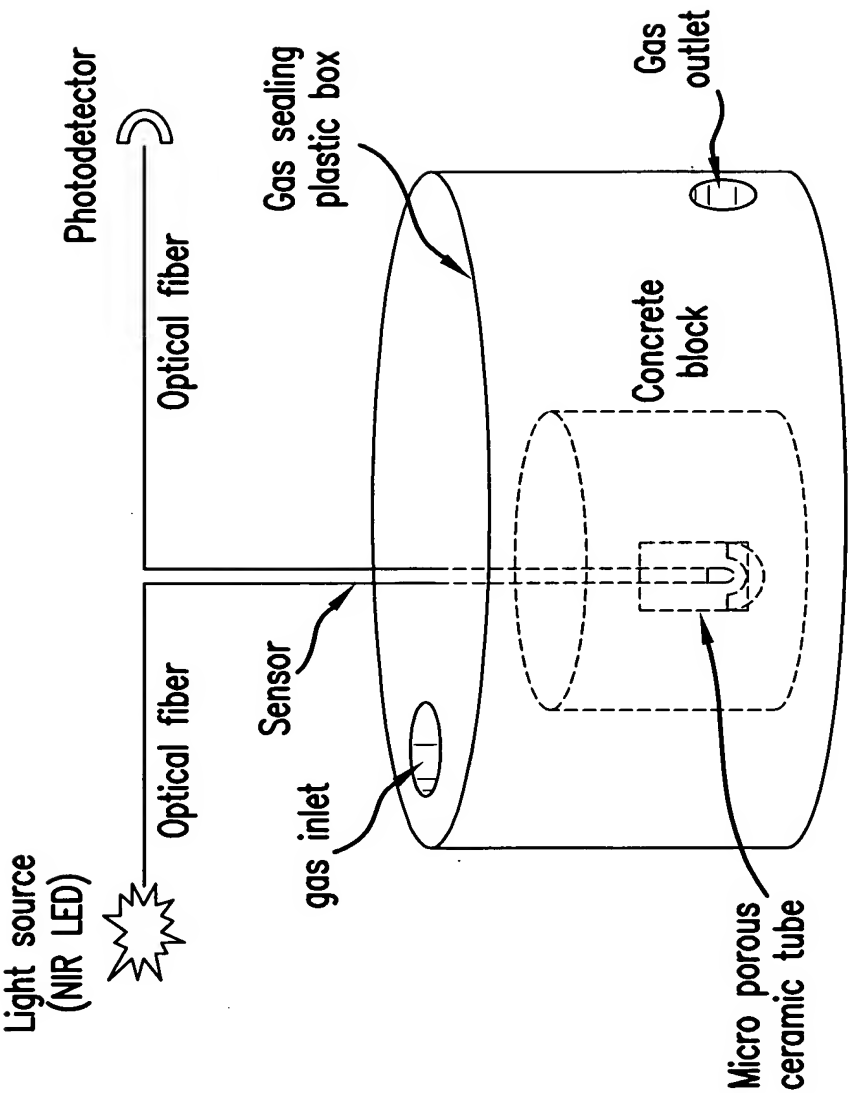
FIG.9

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Long-term soil moisture monitoring using a sol-gel silica coated bent fiber sensor  
(The coated bent fiber probe was buried in soil sample without any package protection)

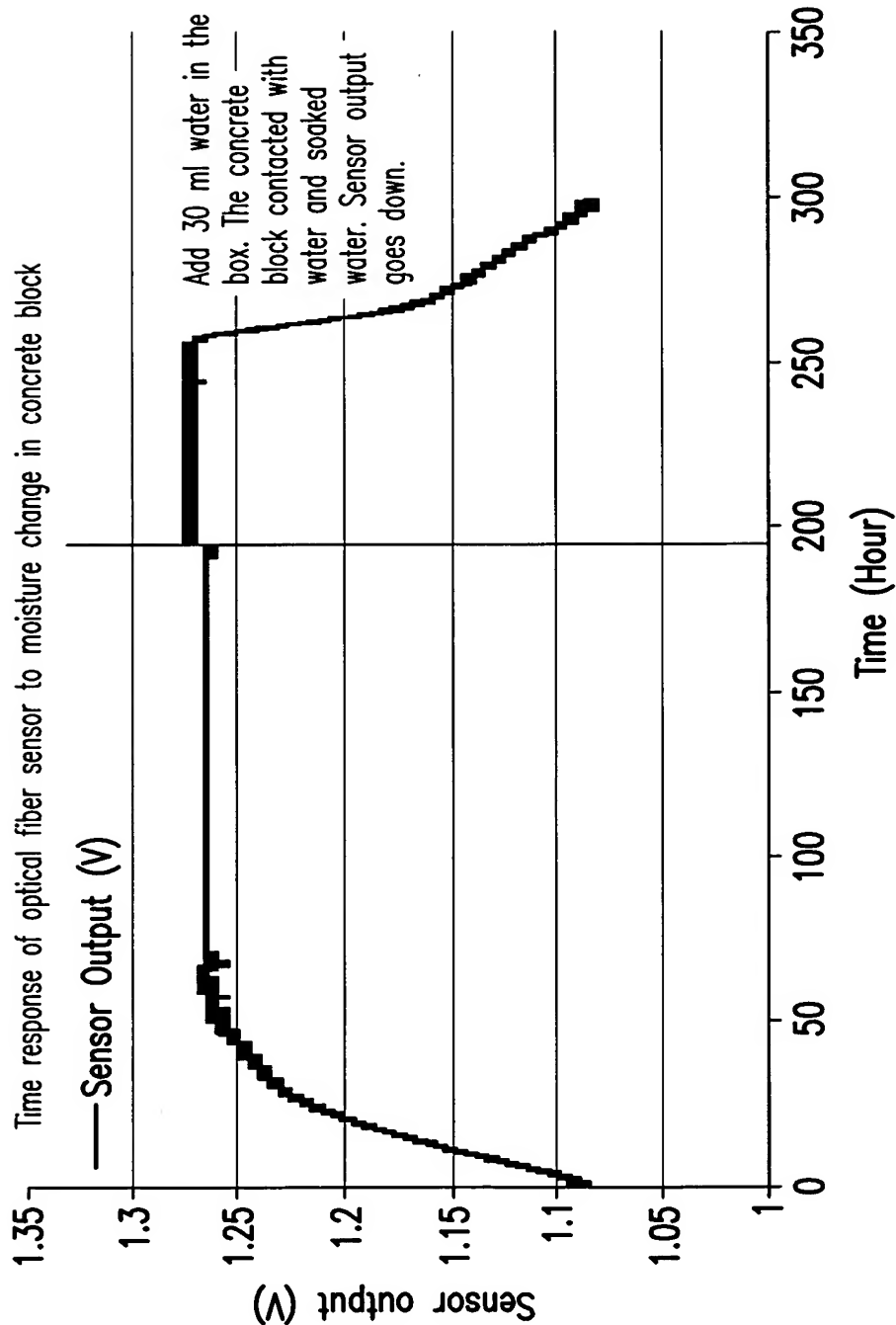
FIG.10



Laboratory set-up for testing the sensor of this invention for monitoring moisture inside a concrete block

FIG.11

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Preliminary test result of optical fiber sensor for monitoring moisture in concrete block

FIG.12